

Notice of Allowability

Application No.

10/830,053

Examiner

Hai C. Pham

Applicant(s)

MATSUMOTO, KENJI

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 06/07/07.
2. ☒ The allowed claim(s) is/are 1-16.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

REASONS FOR ALLOWANCE

1. The following is an examiner's statement of reasons for allowance: claims 1-3, 9, 15 and 16 are allowed at least for the reason that the prior art of record does not teach or reasonably suggest the exposure apparatus comprising a first exposure head in which a plurality of light emitting sections which emit light with first intensity are arranged in a main scanning direction and in a sub scanning direction, a second exposure head in which a plurality of light emitting sections which emit light with second intensity are arranged in the main scanning direction and in the sub scanning direction in such a way that an exposure area including an overlapped exposure area overlapping an exposure area of the first exposure head is exposed by the second exposure head, and a driving control unit by which each of the light emitting sections of the first exposure head and the second exposure head is lit at a predetermined timing in such a way that a difference in the maximum exposure amount between pixels adjoining each other in the overlapped exposure area in the main scanning direction is smaller than a difference in the maximum exposure amount between each pixel in the exposure area of the first exposure head and each pixel in the exposure area of the second exposure head, as set forth in the claimed combination.

Claims 4-5 and 10 are allowed at least for the reason that the prior art of record does not teach or reasonably suggest the exposure apparatus comprising a first exposure head in which a plurality of light emitting sections which emit light with first intensity are arranged in a main scanning direction and in a sub scanning direction, and a second exposure head in which a plurality of light emitting sections which emit light

with second intensity are arranged in the main scanning direction and in the sub-scanning direction in such a way that an exposure area including an overlapped exposure area overlapping an exposure area of the first exposure head is exposed by the second exposure head, wherein the light emitting sections which emit light with the first intensity and the light emitting sections which emit light with the second intensity are provided in a predetermined ratio corresponding to the overlapped exposure area in such a way that a difference in the maximum exposure amount between pixels adjoining each other in the main scanning direction is smaller than a difference in the maximum exposure amount between each pixel in the exposure area of the first exposure head and each pixel in the exposure area of the second exposure head, as set forth in the claimed combination.

Claims 6-8 and 11 are allowed at least for the reason that the prior art of record does not teach or reasonably suggest the exposure apparatus comprising a first exposure head in which a plurality of light emitting sections are arranged in a main scanning direction and in a sub scanning direction, a second exposure head in which a plurality of light emitting sections are arranged in the main scanning direction and in the sub scanning direction in such a way that an exposure area including an overlapped exposure area overlapping an exposure area of the first exposure head is exposed by the second exposure head, and a driving control unit by which each of the light emitting sections of the first exposure head and the second exposure head is lit with predetermined light emitting intensity and at a predetermined timing in such a way that a difference in the maximum exposure amount between pixels adjoining each other in the

overlapped exposure area in the main scanning direction is smaller than a difference in the maximum exposure amount between each pixel in the exposure area of the first exposure head and each pixel in the exposure area of the second exposure head, as set forth in the claimed combination.

The reason for the allowance of claim 12 has been stated in the previous Office action issued on 02/07/07.

Claim 13 is allowed at least for the reason that the prior art of record does not teach or reasonably suggest the exposure apparatus comprising a first exposure head in which a plurality of light emitting sections which emit light with first intensity are arranged in a main scanning direction and in a sub scanning direction, a second exposure head in which a plurality of light emitting sections which emit light with second intensity are arranged in the main scanning direction and in the sub scanning direction in such a way that an exposure area including an overlapped exposure area overlapping an exposure area of the first exposure head is exposed by the second exposure head, wherein in light emitting sections in the first exposure head, which are disposed correspondingly to the overlapped exposure area, light emitting intensity of the light emitting sections which are used for exposure gradually decreases towards the downstream side in the main scanning direction and towards the downstream side of the sub scanning direction, and in light emitting sections in the second exposure head, which are disposed correspondingly to the overlapped exposure area, light emitting intensity of the light emitting sections which are used for exposure gradually increases

towards the downstream side in the main scanning direction and towards the downstream side of the sub scanning direction, as set forth in the claimed combination.

Claim 14 is allowed at least for the reason that the prior art of record does not teach or reasonably suggest the exposure method for exposing a photosensitive material using a first exposure head and a second exposure head, the second exposure head in which a plurality of light emitting sections are arranged in a main scanning direction and in a sub scanning direction being arranged in such a way that an exposure area including an overlapped exposure area overlapping an exposure area of the first exposure head in which a plurality of light emitting sections are arranged in the main scanning direction and in the sub scanning direction is exposed by the second exposure head, exposing the photosensitive material such that a difference in the maximum exposure amount between pixels adjoining each other in the overlapped exposure area in the main scanning direction is smaller than a difference in the maximum exposure amount between each pixel in the exposure area of the first exposure head except for the overlapped exposure area and each pixel in the exposure area of the second exposure head except for the overlapped exposure area, as set forth in the claimed combination.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C. Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Luu can be reached on (571) 272-7663. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



HAI PHAM
PRIMARY EXAMINER

August 22, 2007